

App. No. 10/501,744  
Amendment dated November 30, 2005  
Reply to Office action of August 31, 2005

**Amendments to the Drawings:**

The attached drawing sheets includes changes to Figs. 1 and 2 required by the Examiner. These two sheets replace the original single sheet containing Figs. 1 and 2.

In Figs. 1 and 2, the upper surfaces of the respective susceptors 1 and 11 have been redrawn to represent the concavity therein.

Attachment: Replacement Sheets  
Annotated Sheets Showing Changes

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Remarks

1. Claims 1 through 8 were originally presented in this application. No claims have been added or canceled. Claim 1 has been amended to more particularly point out and distinctly claim the inventive material of the instant invention. Claims 1 through 8 remain pending.

2. The drawings were objected to under 37 CFR 1.83(a). In particular, the Examiner states: "The concavity in claim 1 must be shown or the feature(s) canceled from the claim(s)."

3. Applicants submit corrected drawing sheets herewith in compliance with 37 CFR 1.121(d). Applicants refer the Examiner to new drawing sheets 1/2 and 2/2 including amended Figs. 1 and 2, respectively. Figs. 1 and 2 have been amended to show the concavity of the wafer carrying face and the shaft recited in amended claim 1. Support for these drawing amendments may be found, for example, in Embodiment 1 on pages 6 through 9 of the original specification such that no new matter has been entered. The concavity is supported, for example, by the "warpage" values given in Table 1 (page 9). The concavity is also supported by original claim 1 as well as by numerous other locations in the original specification. The shaft is supported, for example, by the "pipe-shaped support members" disclosed on page 8.

4. Claims 1 through 8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner states: "In claim 1, the recited '0.001 to .7mm/300mm' is unclear."

5. Claim 1 has been amended to address this issue. In particular, "said concavity being 0.001 to 0.7 mm/300 mm in negative arched contour" has been amended to recite "said concavity being 0.001 to 0.7 mm per 300 mm length along the wafer-carrying face in negative arched contour". This amendment is supported by page 5, lines 2 through 10 of the original specification, which states in part: "with a ceramic susceptor of the present invention, the wafer-carrying face in arched contour when not heating (when at ordinary temperatures) is rendered a concavity of 0.001 to 0.7 mm per 300 mm length along the wafer-carrying face." No new matter has been entered. Moreover, this amendment is ministerial and non-substantive in nature. It is not intended to (and is not believed to) alter the scope and/or subject matter of the amended claim as originally presented.

6. Claims 1 through 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Storbeck (U.S. Publication 2002/0023590) in view of Arena (U.S. Patent 5,635,093) or Lorenz et al (U.S. Patent 4,960,978) and Yoshida et al (U.S. Patent 6,080,970). In particular, the Examiner states: "Storbeck shows a susceptor

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having a substrate having the concavity larger than .2mm or .5mm over the surface of the substrate having a 300 mm diameter... However, Storbeck does not show that the substrate is made of ceramic and that the heater is made of the resistive heating element." The Examiner goes on to state: "it would have been obvious to one of ordinary skill in the art to adapt Storbeck with" the elements taught in Arena, Lorenz, and Yoshida.

7. Applicant respectfully traverses this rejection to the extent that it is pertinent to currently amended claim 1. Independent claim 1 has been amended to recite "a ceramic substrate deployed on a substantially cylindrical shaft" and to further recite: "the shaft disposed to warp the substrate in a controlled manner, thereby causing at least a portion of said concavity of the wafer-carrying face." Support for this amendment may be found, for example, on page 8, lines 1-12 of the original specification. In particular, lines 7-12 state:

One end face of the AlN pipe-shaped support members was set in place in the center of the AlN ceramic susceptors and hot-press joined to them by heating 2 hours at a temperature of 800°C. In doing so, by modulating warpage in the sample holder when the hot-press joint formed, the initial warpage in the ceramic susceptors following joint formation was varied sample by sample to be the values set forth in Table I below.

The ceramic substrate being deployed on a substantially cylindrical shaft is supported by the "pipe-shaped support members" being "set in place in the center of the AlN ceramic susceptors" (lines 7-8). The shaft disposed to warp the substrate in a controlled manner, thereby causing at least a portion of said concavity of the wafer-carrying face is supported by "modulating warpage in the sample holder when the hot pressed joint [is] formed" (lines 9-10) and by the varying warpage (concavity) values from susceptor to susceptor set forth in Table 1. No new matter is entered and no new search should be required.

8. The Applicant respectfully submits that, as amended, independent claim 1 now distinguishes patentably over Storbeck in view of Arena or Lorenz et al and Yoshida et al. In particular, nothing in Storbeck or any of the other prior references of record teaches, or even suggests, a substrate deployed on a shaft, the shaft being "disposed to warp the substrate in a controlled manner, thereby causing at least a portion of the concavity of the wafer-carrying face" as recited in amended claim 1.

9. Applicant therefore respectfully submits that independent claim 1, as amended, is patentable over the prior art of record. Independent claim 1 being allowable, it follows *a fortiori* that dependent claims 2 through 8 must also be allowable, since these dependent claims carry with them all the elements of amended independent claim 1.

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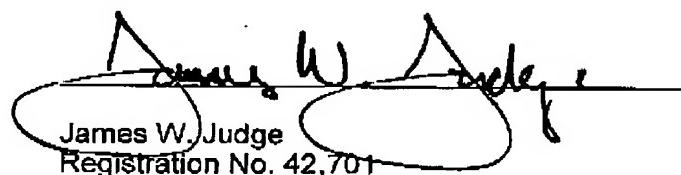
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Applicant believes that this application is now in full condition for allowance,  
which action Applicant earnestly solicits.

Respectfully submitted,

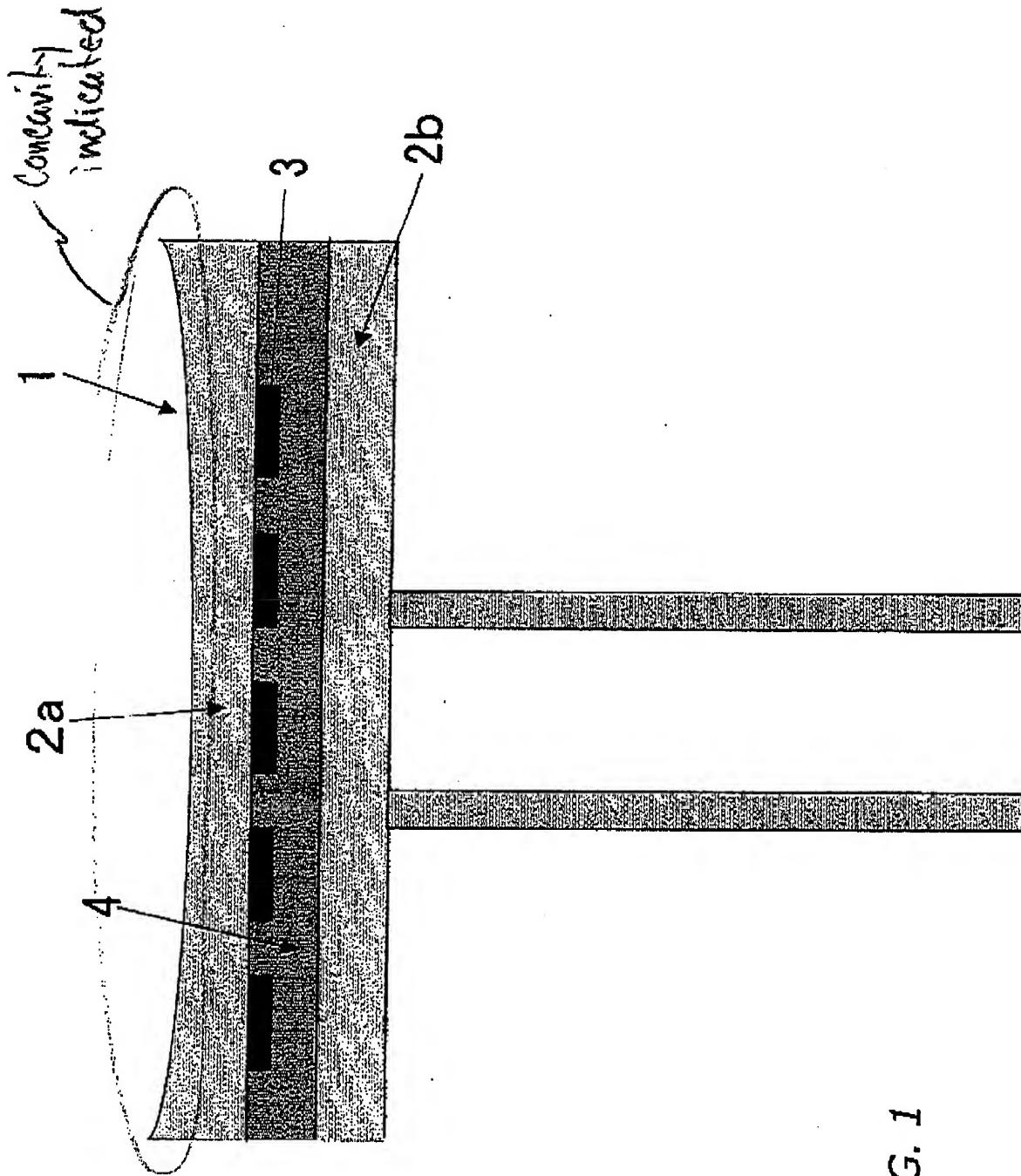
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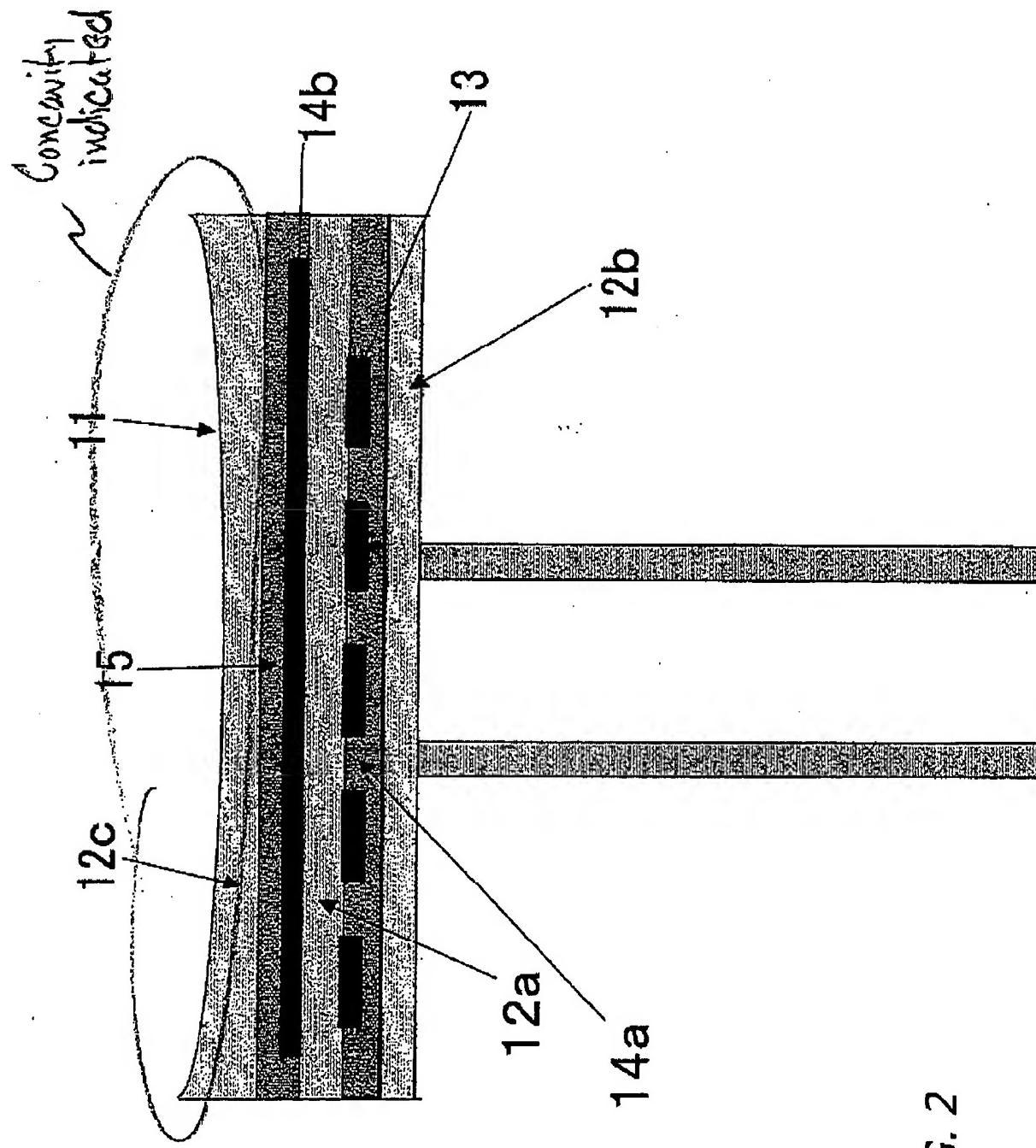


FIG. 2